

American Honda Motor Co., Inc.

1919 Torrance Boulevard Torrance, CA 90501-2746 Phone (310) 783-2000

June 24, 2019

AHCERT-190413

Director Certification Division (EPA-335) Mobile Source Air Pollution Control U.S. ENVIRONMENTAL PROTECTION AGENCY 2000 Traverwood Drive Ann Arbor, MI 48105

Attention: Donna Ringle

Motorcycle Certification

RE: 2020 On-Highway Motorcycle Application Revision for LHNXC01.0CFA

Dear Donna,

Honda Motor Co., Ltd. hereby submits the following revision(s) to the Certification applications listed above.

Page	Revision Date	Description
Sec 7, Pg 6	6/24/2019	Corrected indicated worst case model and full weight with accessories and options

Regards,

AMERICAN HONDA MOTOR CO., INC.

Matthew K Johnson

Seni Certification Engineer

Certification and Compliance Department

MKJ

Attachment(s)

Authorized Representatives

Matthew K Johnson, Senior Certification Engineer, 1(310)783-3615 Samuel Choe, Certification and Compliance Manager, 1(310)783-3218



American Honda Motor Co., Inc.

1919 Torrance Boulevard Torrance, CA 90501-2746 Phone (310) 783 2000

June 24, 2019

AHCERT-190413

Chief New Vehicle/Engine Programs Branch CALIFORNIA AIR RESOURCES BOARD 9480 Telstar Avenue, Suite 4 El Monte, CA 91734-2301

ATTENTION: Mr. Richard Uyehara

Motorcycle Certification

RE: 2020 On-Highway Motorcycle Applications Revision for LHNXC01.0CFA

Dear Sir,

Honda Motor Co., Ltd. hereby submits the following revision(s) to the Certification application(s) listed above.

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Section: 7 Page: 6 Issued: 06/10/2019

Revised:

<Exhaust Emission Data Vehicle / Engine (EDV/E) and Emissions Test data>

Also refer to CSI 5

Worst case

Model name	Worst case	Test veh E D V		EIM (kg)	Loaded vehicle weight range (kg)	Road Load (nt)	Total vehicle mass	Full weight with accessories /options(kg) *1	N/V	Sales area	Accumulation Distance (km)
CBR1000RR				280	276 - 285	131.4	285	282.5	45.2	50s	
CBR1000RA	Х			280	276- 285	131.4	285	284.5	45.2	50s	
CBR1000S1		Х	Х	280	276- 285	131.4	285	282.1	45.2	50s	15000
CBR1000S1				280	276- 285	131.4	285	281.1	45.2	49s	

^{*1} Curb weight, Rider weight, Production tolerance & Weight of optional accessories (See attachment 4)

CBR1000S1 is selected as the test model by adjusting total vehicle mass is 285kg.

It has the greatest full weight with accessories / options. Therefore, it is expected to have the highest emissions.



American Honda Motor Co., Inc.

1919 Torrance Boulevard Torrance, CA 90501-2746 Phone (310) 783-2000

June 20, 2019

AHCERT-190406

Director Certification Division (EPA-335) Mobile Source Air Pollution Control U.S. ENVIRONMENTAL PROTECTION AGENCY 2000 Traverwood Drive Ann Arbor, MI 48105

ATTENTION: Donna Ringle

Motorcycle Certification

RE: 2020 Honda ONRM Certification Applications

Dear Sir,

Enclosed is our application for certification of the following 2020 model year Honda motorcycle engine family:

CLASS	ENGINE FAMILY	ENGINE CODE	MODEL(S)	TEST DATA
III	LHNXC01.0CFA	LED1/2/3	CBR1000RR/RA/S1	Carryover

In accordance with EPA's Test Vehicle Selection Guidelines, and under the continued protocol of Voluntary Abbreviated Certification Review for motorcycles, Honda Motor Co., Ltd. determined that the data submitted is appropriate for the 2020 model year.

Certification fees of \$1852.00 for the EPA Motor Vehicle and Engine Compliance Program were paid through Pay.gov on May 15, 2019.

We would greatly appreciate it if you could review this material and issue a Certificate of Conformity by July 19, 2019.

Please contact me at (310) 783-3615 if you have any questions.

Regards,

AMERICAN HONDA MOTOR CO., INC.

Matthew K Johnson

Sen or Certification Engineer

Certification and Compliance Department

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Authorized Representatives

Matthew K Johnson, Senior Certification Engineer, 1(310)783-3615 Samuel Choe, Certification and Compliance Manager, 1(310)783-3218



American Honda Motor Co., Inc.

1919 Torrance Boulevard Torrance, CA 90501-2746 Phone (310) 783-2000

June 20, 2019

AHCERT-190406

Chief New Vehicle/Engine Programs Branch CALIFORNIA AIR RESOURCES BOARD 9480 Telstar Avenue, Suite 4 El Monte, CA 91734-2301

ATTENTION: Mr. Richard Uyehara

Motorcycle Certification

RE: 2020 ONRM Certification Applications

Dear Sir,

Enclosed is our application for certification of the following Honda motorcycle engine family:

CLASS ENGINE FAMILY ENGINE/EVAP. CODE MODEL

III LHNXC01.0CFA LED1/2/3 CBR1000RR/RA/S1 Carryover
LHNXU0018XZX

In accordance with EPA's Test Vehicle Selection Guidelines, ARB's MAC #81-005 and under the continued protocol of Voluntary Abbreviated Certification Review for motorcycles, Honda Motor Co., Ltd. determined that the data submitted is appropriate for the 2020 model year.

We would greatly appreciate it if you could review this material and issue an Executive Order by August 20, 2019.

Please contact me at (310) 783-3615 if you have any questions.

Regards,

AMERICAN HONDA MOTOR CO., INC.

Matthew K Johnson

Senior Certification Engineer

Certification and Compliance Department

MKJ

Attachment(s)

Authorized Representatives

Matthew K Johnson, Senior Certification Engineer, 1(310)783-3615 Samuel Choe, Certification and Compliance Manager, 1(310)783-3218 Engine family: LHNXC01.0CFA Emission Data Type: Carry-Over

Family of Latest Test Data: HHNXC01.0CFA

Evaporative Family: LHNXU0018XZX

Emission Data Type: Carry-Over

Family of Latest Test Data: HHNXU0018XZX

Permeation Family: LHNXPMETAL02

Emission Data Type: Carry-Over

Family of Latest Test Data: HHNXPMETAL02

Sales Area

50s Eng. Code: LED1/LED2

49s Eng. Code: LED3
Calif. Eng. Code: N/A

Manufacturer: Honda Motor Co., Ltd.

US Importer / Distributor: American Honda Motor Co., Inc.



HONDA MOTOR CO., LTD. Executive Order:

M-002-0779

New On-Road Motorcycles/Engines

Page 1 of 2

Pursuant to the authority vested in California Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 1 and 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: That the engine and emission control systems produced by the manufacturer are certified as described below for on road motorcycles. Production vehicles shall be in all material respects the same as those for which certification is granted. The manufacturer shall ensure that character "C" or "3" is not used in the eighth (8th) position of the vehicle identification number (VIN) of all vehicles in the engine family listed below. Violation of this VIN provision may result in incorrect registration of the vehicles

Model Year	Engine Family	Vehicle Category	Fuel Type(s)	Strokes per cycle
2019	KHNXC01.0CFA	HMC-III	GAS	4

Special Features & Emission Control Systems (ECS)	Engine(cc)
SFI, PAIR, HO2S, TWC	1000

The following are the exhaust hydrocarbon plus oxides of nitrogen (HC+NOx) and carbon monoxide (CO) standards, or designated or HC+NOx standard as applicable, and certification levels in grams per kilometer (g/km), and evaporative standard and certification level in grams per test (g/test) for this engine/evaporative family. The designated or HC+NOx standard, as applicable, shall be listed on the permanent tune-up label.

Exhaust Emissions (G/KM)				
Pollutant	CERT	STD	DES STD	
HC	0.2	*	*	
HC+NOx	0.3	0.8	*	
CO	1	12		

Diumal and Hot Soak: Hy	drocarbon Emissions (g/test)	
Evaporative Family (EVAP)	CERT	STD
KHNXU0018XZX	0.3	2.0

BE IT FURTHER RESOLVED: That certification to the designated HC or HC+NOx standard listed above, as applicable, is subject to the following terms, limitations and conditions. The designated HC or HC+NOx standard shall be the exhaust emission limit for this engine family and cannot be changed during the model year. It serves as the HC or HC+NOx exhaust standard applicable to this engine family for determining compliance with Title 13, California Code of Regulations, Sections 1958(b) and 2101.

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all materials required to demonstrate certification compliance with California Air Resources Board's emission control system warranty regulations (Title 13, California Code of Regulations, Sections 2035 et seq.).

BE IT FURTHER RESOLVED: That because the listed motorcycles are certified to 0.2 grams per test or more below the applicable evaporative standard, the vehicles are exempt from complying with California Air Resources Board's "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks" pursuant to Executive Order G-70-16-E.

Vehicles certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Vehicles in this family that are produced for any other model-year are not covered by this Executive Order.

See Attachment A for vehicle descriptions.

Executed at El Monte, California on this /

_ day of September 2018.

Appette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division



HONDA MOTOR CO., LTD. Executive Order: M-002-0779

New On-Road Motorcycles/Engines

Page 2 of 2

ATTACHMENT A

Make	Model	Engine (cc)	EIM (kg)	TRANS	ECS	EVAP
HONDA	CBR1000RR	1000	280	M6	SFI, PAIR, HO2S, TWC	KHNXU0018XZX
HONDA	CBR1000RR ABS	1000	280	M6	SFI, PAIR, HO2S, TWC	KHNXU0018XZX
HONDA	CBR1000RR SP	1000	280	M6	SFI, PAIR, HO2S, TWC	KHNXU0018XZX

ABBREVATIONS:

GENERAL: 13 CCR 1958, etc.=Title 13, California Code of Regulations, Section 1958, etc.; 40 CFR86.401-90, etc.=Title 40, Code of Federal Regulations, Section 86.401-90, etc.;

HIGHWAY MOTORCYCLE & OFF-HIGHWAY RECREATIONAL VEHICLE CATEGORIES: ATV or ATVA=all terrain vehicle conforming to the California definition in 13 CCR 2411(a); ATVB=Off-highway or non-road recreational vehicles that meet USEPA definition for an all-terrain vehicle or USEPA definition for an off-road utility vehicle and, in addition, meet one or more CARB definitions for an all terrain vehicle, off-road utility vehicle, off-road sport vehicle, and/or sand car; EGC=electric golf cart; HMC=on-road or highway motorcycle; HMC-IA / -IB=HMC below 50 cc / 50 cc to below 170 cc; HMC II=HMC 170 cc to below 280 cc; HMC-III=HMC 280 cc and above; OFMC=off-road motorcycle; SC=sand car above 1000 cc; OFRSV=off-road sport vehicle, including otherwise sand car but with 1000 cc engine or smaller; OFRUV=off-road utility vehicle:

FUEL TYPES: CLNG=natural gas in either CNG or LNG form; CNG / LNG=compressed / liquefied natural gas; DF_CNG/GAS=dual-fuel CNG or gasoline, etc; DSL=diesel; GAS=gasoline; HYD=hybrid; LPG=propane or liquefied petroleum gas;

EMISSION CONTROL SYSTEMS & SPECIAL FEATURES: AFS / HAFS=air fuel ratio sensor / heated AFS; (prefix) 2, 3, 4=2, 3, or 4 catalysts, sensors, TC, SC, CAC, etc. in parallel arrangement; (parenthetic suffix) (2), (3), (4)=2, 3, or 4 catalysts, sensors, TC, SC, CAC, etc. in series arrangement; AIR / PAIR=secondary / pulsed air injection; CAC=charge air cooler; DDI / IDI=direct / indirect diesel injection; EGR=exhaust gas recirculation; EM=engine modification; O2S / HO2S=oxygen sensor / heated O2S; OC=oxidation catalyst; TC=turbocharger; TBI / MFI / SFI / DGI=throttle body / multi port / sequential / direct gasoline fuel injection; TRANS=transmission type; TWC=three way catalyst; SC=supercharger; TWC+OC=TWC plus OC in same container; (prefix) WU=warm-up catalyst;

CERTIFICATION EMISSION LEVELS & STANDARDS: bhp=brake hp; cc=cubic centimeter; CERT=certification emission level; CID=cubic inch displacement; CO=carbon monoxide; CO2=carbon dioxide; D+HS=diurnal plus hot soak evaporative emissions; DES_STD=manufacturer designated standard; EIM=equivalent inertia mass; EVAP=evaporative family; FEL=family emission limit; g=gram; gal=gallon; g/bhp-hr=grams per brake horsepower-hour; g/km=grams per kilometer; g/kW-hr=grams per kilowatt-hour; g/m2-day=grams per square meter per day; g/test=grams per test; HC=(total) hydrocarbons; hp=horsepower; hr=hour; K=1000 miles; kg=kilograms; km=kilometer; kW=kilowatt; L=liter; m2=square meter; mi=mile; mg=milligram; NOX=oxides of nitrogen; NMHC=non methane hydrocarbons; PEVAP=permeation evaporative family; STD=emission standard; *=not applicable; (superscript) o=degree (temperature); oF=degree Fahrenheit; oC=degree Celsius.

Table of contents

2: Actual Test reports

4: Accessories / Option

3: Model picture (Confidential)

5: Riding mode switching system

Engine Family Description

Basic vehicle information	page1
Exhaust Emission Control Information	
AECDs in the ECS	page2
Adjustable parameters (Including high altitude performance adjustment)	page2
Exhaust & Aftertreatment Block Diagram	page2
Catalytic Converter (confidential)	page3
Pulsed Secondary Air Injection	page4
Evaporative Emission Control System	page4
Crankcase emission control diagram	page5
Exhaust Emission Data Vehicle / Engine (EDV/E) and Emissions Test data	
Full weight with all Factory options	page6
Worst case	page6
Additional comments	page7
Maintenance schedule	page8
Vehicle log	page9-10
Permeation Emissions Control / Test Data	
Permeation test result	page11-15
Evaporative Durability Data Vehicle(DDV) and Durability Test Data	
EVAP Bench test method approval	page15
Miscellaneous	
Emission label format previously approved?	Page16
Emission warranty previously approved?	Page16
Emission control information label location / label picture	page16
Part number summary for relative emission parts	page17
VIN coding / Model picture	page18
Confidential information	page19-20
<u>Attachment</u>	
1: AECD (Confidential)	

On-Highway Motorcycle Certificate Review Sheet - March 7, 2005

\boxtimes C	Certificate will be issued to: <u>Honda Motor Co., Ltd.</u> Model Year <u>2020</u> (Must be a U.S. manufacturer or U.S. importer/distributor)
Engi	ne Family <u>LHNXC01.0CFA</u> Evaporative Family <u>LHNXU0018XZX</u>
\Box C	alifornia Only CARB Executive Order Number
Smal	Il Volume:
	orcycles are produced by <u>Honda Motor Co., Ltd.</u> orcycles are produced at <u>Japan</u> (Identify the OEM) (Location of OEM Plant(s)
	els to be listed on Certificate: CBR1000RR/CBR1000RA/CBR1000S1 ments:
1.	New Mfr/Importers only: Send letter to EPA describing your company=s plans; request an initial EPA guidance package. Is this the first Certificate issued to your company? Yes; No.
2.	New manufacturers or new U.S. importers of foreign motorcycles must obtain an EPA assigned manufacturer (or importer) codes; See www.epa.gov/otaq/cfeis.htm .
3.	Group vehicles into engine families; ref 40CFR 86.420-78, EPA guidance letters CCD-04-01, Feb. 11, 2004, and VPCD-96-12, Dec. 3, 1996; available at http://epa.gov/otaq/cert/dearmfr/dearmfr.htm .
4.	Select test vehicle(s); ref 40 CFR 86.418 to 86.423. Number of test vehicles for this family 1
5.	Locate a test laboratory capable of performing EPA tests; ref. www.epa.gov/otaq/consumer/lablist.pdf. Laboratory where exhaust tests were performed: Honda Motor Co., Ltd. (Japan) Laboratory where permeation tests were performed (if applicable): Tank/ Honda Motor Co., Ltd. (Japan) Hoses/ Each manufacturer
6.	Perform mileage accumulation and exhaust testing. Ref. 40 CFR 86.426-78 to 86.430-78.
υ.	Full Mileage accumulation (1/2 of useful life mileage for the class of motorcycle)
	Requested EPA approval to accumulate 5000 total miles (total annual sales < 300 units)
	Performed 4 exhaust tests or more; ref. 40 CFR 86.427-78 0-50cc: Modified test cycle used. Ungoverned Top speed (must be <36.5mph)
7.	Perform evaporative and/or permeation tests; Ref. 40 CFR 86.410(g) and 40 CFR 1051, Subpart F. ☐ Yes; ☐ No: Performed evaporative testing as required by California regulations ☐ Yes; ☐ No: Performed EPA permeation tests of fuel tank and fuel hoses; ref 40 CFR 1051.501 & 515
8.	EPA Confirmatory Testing: If selected for confirmatory testing, must provide vehicle to EPA=s Ann
	Arbor, Michigan laboratory or another EPA-designated laboratory; ref 40 CFR 86.434-78.
	☐ Tested at EPA laboratory or an EPA-designated laboratory; ☐ Waived by EPA
9.	Submit fee payment & fee filing form; See CCD-04-14, July 2, 2004; ref www.epa.gov/otaq/fee.htm . I Full Fee Paid: Amount Paid \$ 1,852; Reduced Fee: Amount Paid; Number of vehicles paid for; Total retail value of all vehicles paid for \$ Copy of fee filing form & basis for reduced fees in application. (Do not send a copy of check.)

10.	Application for certification: Submit the completed application to EPA, preferably on CD; ref 40 CFR 86.416-80, 86.438-78, and 86.439-78:							
	Application follows EPA's recommended application format; ref. EPA 3/9/05 workshop Application includes electronic & paper copy of CSI (Computer Systems Information)							
	The application contains:							
	A description of the manufacturing and assembly process;							
	A copy of the agreement between the manufacturer and importer (imported motorcycles only);							
	Description of vehicles covered by the certificate (vehicle, engine, transmission parameters, etc);							
	Name and address of the original vehicle manufacturer;							
	Name and address of the original engine manufacturer;							
	A detailed description of catalytic converter(s) and emission-related components;							
	A detailed description of carburetor or fuel injection (manufacturer, model number, etc);							
	Part numbers of carburetor/fuel injection, catalysts, and emission-related components for all Federal and California models covered by the certificate;							
	Test data including description of test vehicle(s), emission data & maintenance log;							
	Email & paper copy of EPA excel files: Engine Family & Test Information Sheets; (not required if CSI provided to EPA)							
	A statement of compliance as required by 40 CFR 86.437-78(a)(1) or (b)(ii); and							
	A statement that production motorcycles are identical in all material respects to the motorcycles tested and described in the application for certification.							
	Emission Control Information Label; ref. 40 CFR 86.413-78:							
	Actual label or a copy of the actual label is included in the application;							
	Location where the label will be affixed to motorcycle is included in the application;							
	Label contains company name & trademark of the certificate holder; Label contains company name of OEM (EPA recommendation for imported motorcycles)							
	Label is permanent (can't be peeled off);							
	Label is permanent (can't be pecked 617), Label contains HC+NOx FELs (required if engine family is certified to FELs); and							
	Label is affixed to motorcycle during production (before going thru U.S. Customs for imports)							
	Warranty, maintenance instructions, and owner's manuals:							
	Actual warranty booklet & owners manual provided to EPA; (40 CFR 86.411; 86.412); or							
	Warranty text & maintenance provided (warranty & owners manuals will be provided later)							
	Emissions warranty coverage meets minimum Clean Air Act Requirements as follows:							
	☐ 5 years/ 6,000 km (Class I-A) ☐ 5 years/ 18,000 km (Class II)							
	5 years/ 12,000 km (Class I-B) S years/ 30,000 km (Class III)							
11.	Agreement between importer and a foreign motorcycle manufacturer: American Honda is the sole							
	distributor of Honda products in the United States. The application shall include a letter from the OEM to EPA							
	(on the OEM's letterhead & signed by a vice president or higher) authorizing the applicant to import and distribute							
	motorcycles in the U.S. The agreement shall include the following:							
	Complete identification of the OEM. Include all company names, aliases, subsidiary companies,							
	parent companies and subcontractors associated with the manufacturer of motorcycles. Provide a brief history of the							
	OEM, number of years the OEM has been in business, the official OEM website; the number and location of all							
	manufacturing plants, the number of employees. Provide the name address, telephone number and email address of							
	key personnel including plant manager(s). Provide a complete list of motorcycles, ATVs, non-road engines, on-road engines and other products manufactured by the OEM (identified by make, model and engine).							
	Identify all entities authorized to import your motorcycles/engines into the U.S. Provide the number of motorcycles and engines (identified by make, model, engine size, engine type) which are 1) produced							
	annually by OEM; and 2) imported into the U.S. (including models imported by other entities).							
	Authorize the applicant to import your products. Completely identify applicant (importer who							
	will be issued a certificate). Include all company names, aliases, subsidiary companies, parent companies and							

	subcontractors associated with the importation of motorcycles. Provide a brief history of the Importer, number of years the Importer has been in business, the official Importer website; the number and location of all Importer offices and employees. Provide the name, address, telephone number & email address of key Importer personnel. Identify the Importer/Certificate Holder's obligations to the OEM.
	Identify the OEM's obligations to the Importer/Certificate Holder.
	Identify the models which the applicant is authorized to import: Provide a complete list of motorcycle models, engines and other emission-regulated products authorized to be imported by the Importer (identified by nameplate, make, model, engine size, engine type and the quantity imported). Include vehicles and engines in this and other engine families intended for certification during the model year. Indicate whether such vehicles and engines will comply with U.S. emission requirements when they leave the OEM factory.
	Assure that "Service of Process" is provided. Provide the name and contact information of a cognizant representative of the manufacturer (normally the importer/certificate holder) who EPA can contact for emission compliance, warranty and other issues. Identify who will be responsible for supplying parts, service, and warranty service to customers. Outline who will be responsible to establish a dealer network, provide service information and provide training to dealer service personnel. Describe how customer feedback will be provided from customers and dealers to the importer and to the manufacturer. Describe how the certificate holder (the importer) will be made aware of all emission-related running changes made to production motorcycles & engines. [PPA only: Agreement was reviewed by:
12.	On-Highway Motorcycle Emission Standards; ref. 40 CFR 86.410-90, 86.410-2006;
	Tier 0: 5 g/km HC, 12 g/km CO [1978-2005 model year vehicles] Tier 1 Class I-A, Class I-B and Class II [2006 and later model year vehicles]: 1.0 g/km HC, 12.0 g/km CO; or 1.4 g/km HC+NOx or a FEL of g/km HC+NOx; 12.0 g/km CO; Note: Family Emission Limit (FEL) must be ≤ 5.0 g/km HC+NOx Tier 1 Class III [2006-2009; or 2008⁺ for small volume (<3000 sales and <500 employees)]: 1.4 g/km HC+NOx or a FEL of g/km HC+NOx; 12.0 g/km CO Note: Family Emission Limit (FEL) must be ≤ 5.0 g/km HC+NOx Tier 2: [Class III only; 2010⁺ model year vehicles]: 3.0 g/km HC+NOx or a FEL of N/A _ g/km HC+NOx; 12.0 g/km CO Notes: Tier 2 is only applicable to large volume (≥3000 sales and ≥500 employees). Family Emission Limit (FEL) must be ≤ 2.5 g/km HC+NOx. Test vehicle(s) passed all applicable exhaust emission standards Small Volume Hardship Provisions approved (1 year grace period); ref 86.446-2006, 447-2006 Comments:
13.	Permeation Standards: [2008 ⁺ or 2010 ⁺ for small volume (<3000 sales and <500 employees)]:
	Tested to demonstrate compliance with Class I-A, I-B, II, III standards, ref. 86.1051.245: Fuel Tank: 1.5 g/m²/day or g/m²/day FEL; and Fuel Hoses: 15 g/m²/day
	Test vehicle(s) passed all applicable emission standards
	Certified by Design; ref. 40 CFR 86.1051.245(e):
	Fuel Tank: Metal Tank with low permeability seals and gaskets; or
	Metal Tank with gasket exposed surface area of 1000 mm ² or less Fuel Hoses: All hoses meet Category 1 permeation specifications in SAE J2260
	All hoses meet R11-A or R12 permeation specifications in SAE J2200
	Small Volume Hardship Provisions approved (1 year grace period); ref 86.446, 86.447
	Comments:
14.	Additional Requirements if Using FELs:

[HC+NOx Averaging Provisions are used for this engine family; ref. 40CFR 86.449
	Application includes Preliminary Corporate Average HC+NOx calculations.
	Preliminary Class I/II Corporate Average HC+NOx: g/km
	If projecting a deficit, source of (Class III) offsetting credits:
	Preliminary Class III Corporate Average HC+NOx:g/km
	If projecting a Tier 2 deficit, source of (early Tier2) offsetting credits:
	Yes or □ No: Class III credits will be used in Class I/II Corporate Average.
	Application includes the statements required by 40CFR 86.449(f)(1) and (h):
	(f)(1) The corporate average HC+NOx emission level will be below the standard for all
	classes of motorcycles; and (h) Certifying the accuracy of HC+NOx calculations.
	Agree to send EPA an end-of-year report within 120 days after model year ends; ref. 86.449.
F	HC+NOx Early Tier 2 Banking Provisions are used for this engine family (Class III only)
L	FEL for this family is less than .8g/km HC+NOx as required by 40 CFR 86.449(j)
	Assigned a FEL of .8g/km HC+NOx to this family for Tier 1 corporate average calculations
	Assigned a TEL of log kill the TWO x to this failing for Tier Teorporate average calculations
[HC+NOx FELs are being revised for this family before the model year ends
	FEL Raised: Must recalculate preliminary average & make new compliance statements.
	FEL Lowered: Must supply supporting data (e.g. production data from 2-3 vehicles).
[Fuel Tank Permeation Averaging used for this evaporative family; 86.410(g), 86.1051 SubpartH:
	(Fuel tank permeation FELs for evaporative families cannot be revised before the model year ends)
	Metal tanks are excluded from averaging calculations (as required by 40 CFR 410-2006(g))
	Application includes Preliminary Corporate Average Permeation calculations.
	Preliminary Corporate Average fuel tank permeations:g/m²/day
	If projecting a deficit, source of offsetting credits:
	[Fuel tank deficits are allowed thru 2010, only. Deficits must be eliminated by the end of 2011. AB'
	not allowed between hwy motorcycles and off-hwy-motorcycles/ATVs; ref 86.449-(g).]
	Agree to send EPA an end-of-year report within 90 days after the model year ends and a final report
	within 270 days after model year ends; ref. 1051.730(a).
[Fuel Tank Permeation Early Banking Provisions used for this family
	(Allowed prior to 2008 for large volume mfrs; prior to 2010 for small volume mfrs)
	\square FEL for this family is 3.0 g/m ² /day as required by 40 CFR 86.1051.145(g).
(Comments:
1	5. Obtain an EPA Certificate of Conformity; ref 40 CFR 86.437-78.
1	6. Build vehicles to certified specifications (identical to application for certification).
1	7. Affix emission label to each vehicle produced during the production process per 86.413-78(a)(1).
1	8. Supply customers with parts, service, owner's manuals, warranty, etc.
1	9. Send end-of year report to EPA within 120 days after model year ends (if using FELs), per 86.449(g).
2	0. Submit defect reports, voluntary emission-related recall reports to EPA, ref. 40 CFR 85.1901-1904.
I certify	that to the best of my knowledge the above statements are true:
	nel s.
Applica	ificate Reviewed by: Date: 6/20/2019 Date: 6/20/2019
EPA: Cer	ificate Reviewed by : Date:

Section: 7 Page: 1 Issued: 06/10/2019

Revised:

<Engine family Description > Also refer to CSI 3

Basic vehicle information

Engine family : LHNXC01.0CFA

Sales Area

50s Eng. Code : LED1/LED2

49s Eng. Code : LED3
Calif. Eng. Code : N/A

Emission Control system : SFI, PAIR, HO2S, TWC

Calif. Designated standard (g/km) : N/A
New technology : No

If yes, refer to attachment

Displacement (cc) : 1000

Number of cylinder : 4

Cylinder arrangement : L-4

Cylinder head configuration : DOHC

Type of cooling : Liquid

Combustion cycle : Otto

Method of aspiration : Natural

Fuel system : Fuel injection (SFI)

Number of Catalytic converters : 1

Section: 7 Page: 2 Issued: 06/10/2019

Revised:

<Exhaust Emission Control Information> Also refer to CSI 4

AECDs (Auxiliary emission control devices) in the ECS

Refer to Attachment-1

Adjustable parameters (Including high altitude performance adjustment)

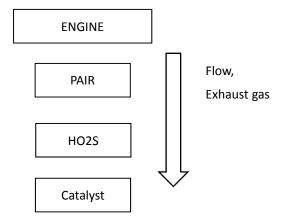
No adjustment parameters are employed.

This vehicle is equipped with systems that compensate the engine fuel metering system for air density change. No high altitude performance adjustment is necessary. ECM is not programmable.

Number of selectable ECM maps each type

х	No selectable map
	2 or more selectable maps

Exhaust & Aftertreatment Block Diagram



Section: 7 Page: 3 Issued: 06/10/2019

Revised:

Catalytic Converter: Yes

Loading(g/liter):

Composition: Ratio:

Confidential:

Refer to Section 7 Page 19

Location : Inside exhaust pipe

Manufacturer : Mitsui Mining & Smelting Co., Ltd

Substrate configuration : Honeycomb
Substrate composition : Metallic

Other specifications : Refer to CSI 4.

Number of bricks : 1

Substrate volume of each brick : Refer to Section 7 Page 19

Cell density of each brick : Refer to Section 7 Page 19

Used in previous/other models : Yes

If yes, last year used engine family : KHNXC01.0CFA

Fuel injection: Yes

Used in previous/other models : Yes

If yes, last year used engine family : KHNXC01.0CFA

<u>O2S</u>: N/A <u>HO2S</u> : Yes <u>WR-HO2S</u>: N/A

Location : Exhaust pipe

Used in previous/other models : Yes

If yes, last year used engine family : KHNXC01.0CFA

Section: 7 Page: 4 Issued: 06/102019

Revised:

Pulsed Secondary Air Injection: Yes

The pulse secondary air supply system introduces filtered air into the exhaust gases in the exhaust port. Fresh air is drawn into the exhaust port by the function of the PAIR control solenoid valve. This charge of fresh air promotes burning of the unburned exhaust gases and changes a considerable amount of hydrocarbons and carbon monoxide into relatively harmless carbon dioxide and water vapor.

The PAIR check valve prevents reverse air flow through the system.

Used in previous/other models : Yes

If yes, last year used engine family : KHNXC01.0CFA

For the System figure, refer to Section 7 Page 20.

Evaporative Emission Control System: Yes

Fuel vapor from the fuel tank is routed into the EVAP canister where it is absorbed and stored while the engine is stopped. When the engine is running and the EVAP purge control solenoid valve is open, fuel vapor in the EVAP canister is drawn into the engine through the throttle body.

Used in previous/other models : Yes

If yes, last year used engine family : KHNXU0018XZX

For the System figure, refer to Section 7 Page 20

For model to apply, refer to CSI.7

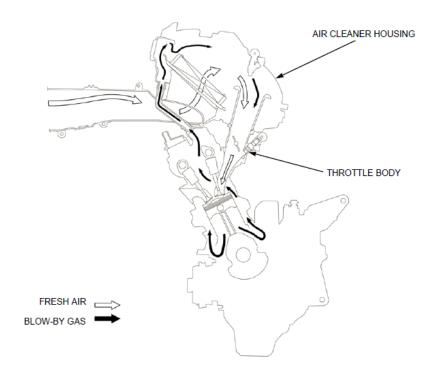
Section: 7 Page: 5 Issued: 06/10/2019

Revised:

Crankcase emission control diagram: Yes

The engine is equipped with a closed crankcase system to prevent discharging crankcase emissions into the atmosphere.

Blow-by gas is returned to the combustion chamber through the crankcase breather hose air cleaner housing and throttle body.



Used in previous/other models : Yes

If yes, last year used engine family : KHNXC01.0CFA

Section: 7 Page: 6 Issued: 06/10/2019

Revised:

<Exhaust Emission Data Vehicle / Engine (EDV/E) and Emissions Test data> Also refer to CSI 5

Worst case

Model name	Worst case	Test veh E D V		EIM (kg)	Loaded vehicle weight range (kg)	Road Load (nt)	Total vehicle mass	Full weight with accessories /options(kg) *1	N/V	Sales area	Accumulation Distance (km)
CBR1000RR				280	276 - 285	131.4	285	282.5	45.2	50s	
CBR1000RA				280	276- 285	131.4	285	284.5	45.2	50s	
CBR1000S1	х	Х	Х	280	276- 285	131.4	285	281.1	45.2	50s	15000
CBR1000S1				280	276- 285	131.4	285	282.1	45.2	49s	

^{*1} Curb weight, Rider weight, Production tolerance & Weight of optional accessories (See attachment 4)

CBR1000S1 is selected as the worst-case model by adjusting total vehicle mass is 285kg. It has the greatest full weight with accessories / options. Therefore, it is expected to have the highest emissions.

Section: 7 Page: 7 Issued: 06/10/2019

Revised:

Compliance Statement

The test vehicles with respect to which data are submitted have been tested in accordance with the applicable test procedures.

They meet the requirements of such tests and on the basis of such tests, they conform to the requirements of the regulations in 40 CFR part 86.

Production motorcycles are identical in all material respect to the motorcycles tested.

Section: 7 Page: 8 Issued: 06/10/2019

Revised:

Maintenance schedule

			Frequency*1								
	Items			0.6	4	8	12	16	20	24	Regular Replace
			× 1,000 km	1.0	6.4	12.8	19.2	25.6	32.0	38.4	replace
Fu	uel Line	*				1		1		I	
Th	rottle Operation	*									
Ai	ir Cleaner *2	*									
Sp	oark Plug	*	Every 16,000	mi (25,	500 km)	Eve	ry 32,00	0 mi (5	1,200 kr	n): (3	
Va	alve Clearance	*									
	ngine Oil			0		0		0		8	1 Year
elated En	ngine Oil Filter			0				B			
T En	ngine Idle Speed	*									
Ra	adiator Coolant *4										3 Years
ËCo	ooling System	1									
Se	econdary Air Supply System	*									
Ev *3	vaporative Emission Control System	*						П			
Ex	chaust Gas Control Actuator Cable	×									

Maintenance Level

: Intermediate. We recommend service by your dealer, unless you have the necessary tools and are mechanically skilled. Procedures are provided in an official Honda Service Manual

: Technical. In the interest of safety, have your motorcycle serviced by your dealer.

Maintenance Legend

III : Inspect (clean, adjust, lubricate, or replace, if necessary)

Replace
Lubricate

_					Fre	equency	y*1				
	Items	× 1,000 mi	0.6	4	8	12	16	20	24	Regular Replace	
			× 1,000 km	1.0	6.4	12.8	19.2	25.6	32.0	38.4	riepiace
	Drive Chain			Even	y 600 m	ni (1,000) km): 🛮	L		•	
	Brake Fluid *4										2 Years
2	Brake Pads Wear										
Items	Brake System										
elat	Headlight Aim										
u-L	Clutch System										
Emission-related	Side Stand										
Ē	Suspension	*									
Non-	Front Fork Oil (CBR1000S1)	*	Every	18,000) mi (30),000 kn	n) or 36	month	ıs: 😱		
Ž	Nuts, Bolts, Fasteners	*									
	Wheels/Tire	×									
	Steering Head Bearings	Ж									

Notes:

- *1: At higher odometer readings, repeat at the frequency interval established here.
- *2 : Service more frequently when riding in unusually wet or dusty areas.
- *3:50 STATE (meets California).
- *4: Replacement requires mechanical skill.

See Owner's and/or Service Manuals for complete maintenance instructions.

Section: 7 Page: 9 Issued: 06/10/2019

Revised:

Vehicle log

Emission Log Sheet

TEST No.	DATE	START TIME	END TIME	DRIVER	START km	TEST PHASE	EVENT	FACILITY
1	10/20/2016	13:04	13:27	K.NAGAOKA	3500	3500km Em	Precondition	1
1	10/21/2016	9:34	10:15	K.NAGAOKA	3511	3500km Em	LA-4	1
2	11/2/2016	10:12	10:35	K.NA GA OKA	6400	6400km Em	Precondition	1
2	11/3/2016	15:37	16:18	K.NAGAOKA	6412	6400km Em	LA-4	1
3	11/14/2016	11:51	12:14	K.NAGAOKA	9600	9600km Em	Precondition	1
3	11/15/2016	15:45	16:26	K.NAGAOKA	9612	9600km Em	LA-4	1
4	11/22/2016	17:26	17:49	K.NAGAOKA	12800	12800km BSM Em	Precondition	1
4	11/23/2016	10:37	11:18	K.NAGAOKA	12812	12800km BSM Em	LA-4	1
5	11/24/2016	16:46	17:09	K.NAGAOKA	12830	12800km ASM Em	Precondition	1
5	11/25/2016	10:39	11:20	K.NAGAOKA	12842	12800km ASM Em	LA-4	1
6	11/30/2016	13:55	14:18	K.NAGAOKA	15000	15000km Em	Precondition	1
6	12/1/2016	10:21	11:02	K.NAGAOKA	15011	15000km Em	LA-4	1

Comment

Refer to common section 6 for test facility identification.

Section: 7 Page: 10 Issued: 06/10/2019

Revised:

Daily Durability Log Sheet

START DATE	END DATE	START km	END km	EVENT	TECHNICIAN	FACILITY	MA INTENANCE NOTE
10/11/2016 16:30	10/20/2016 8:00	1	3500	DURABILITY RUN	M.OI	1	
10/26/2016 18:40	10/31/2016 8:00	3529	6400	DURABILITY RUN	M.OI	1	
11/4/2016 9:30	11/4/2016 9:45	6430	6430	MA INTENANCE	M.OI	1	CLUTCH SYSTEM: I
11/4/2016 9:50	11/9/2016 8:00	6430	9600	DURABILITY RUN	M.OI	1	
11/16/2016 14:10	11/21/2016 9:42	9630	12800	DURABILITY RUN	M.OI	1	
11/23/2016 14:30	11/23/2016 16:00	12830	12830	MA INTENANCE	R.NAKAYAMA	1	FUEL LINE: I THROTTLE OPERATION: I ENGINE OIL: R ENGINE IDLE SPEED: I RADIATOR COOLANT: I COOLING SYSTEM: I CLUTCH SYSTEM: I SUSPENSION: I NUTS, BOLTS, FASTENERS: I WHEELS/TIRES: I
11/25/2016 13:30	11/29/2016 9:29	12860	15000	DURABILITY RUN	M.OI	1	

Comment	NOTE
Refer to common section 6 for test facility identification.	l: Inspect.
	C: Clean.
	R: Replace
<u> </u>	

Replace.

A: Adjust.

L: Lubricate.

Actual Test Reports

Refer to Attachment-2.

Section: 7 Page: 11 Issued: 06/10/2019

Revised:

<Permeation Emissions Control / Test Data> Also refer to CSI 6A

Description of the permeation emission control

Fuel line : Refer to CSI.6A Permeation Control / Test data
Fuel line : Refer to CSI.6A Permeation Control / Test data

Test fuel:

Refer to Common section (Section 6 Page1) document.

Fuel tank

(1) Fuel tank

Metal fuel tank rig tests were conducted according to CCD-05-14 to measure permeation losses.

Testing laboratory	Honda Motor Co., Ltd. Certification & Regulation Compliance
	Division, Kumamoto, Japan
	Division, Rumamoto, Japan
Tank manufacturer	Honda Motor Co., Ltd.
Test rig	2007MY FSC600
Test condition	With fuel cap, brazed feed/return line, capped breather line by fluorine-tube and plug (Refer to photos)
Precondition method	43ºC Test
	(Alternative by EPA guidance letter CCD-05-14)

2020 Honda Motorcycle Section: 7 Page: 12 Issued: 06/10/2019

Revised:

Table 1: Fuel tank test results

Permeation family: LHNXPMETAL02

Model name: CBR1000RR/RA/S1

Test rig: 2007MY FSC600

		Rig te	est results		CBR1000RR/RA/S1				
Rig No.	Initial weight (g)	Final weight (g)	Weight loss (g)	Soak period (days)	Permeation loss (g/day)	Exposed Surface Area (m2)	DF (g/m2/day)	Permeation rate (g/m2/day)	CL (g/m2/day)
Rig1	15934.9	15929.3	5.6	14.7	0.38	0.4824	0.00 *1	0.79	0.9
Rig2	15936.5	15930.7	5.8	14.7	0.39	0.4824	0.00 *1	0.81	0.8

^{*1} Based on our good engineering judgment, the fuel tanks, fuel caps, gaskets, fittings, O-rings, and other permeable surfaces for this permeation family are durable and that fuel tank permeation emissions would not be affected by such durability testing.

Section: 7 Page: 13 Issued: 06/10/2019

Revised:

Table 2: Fuel tank information

Permeation family: LHNXPMETAL02

Model name: CBR1000RR/RA/S1

Tank material		Metal	Metal			
Fuel Tank Cap material	Metal	Metal				
Control strategies						
Least thickness (mm)		Ref: CSI 6A				
Barrier materials/amount						
Coating material(s)/amount,	/process	N/A	21/2			
UV inhibitors/amount		N/A	N/A			
	Fuel pump(m2)	FKM	0.000806			
Materials and exposure	Fuel cap 1(m2)	NBR/PV	C 0.001919			
area(s) of gaskets	Fuel cap 2(m2)	NBR2	0.000062			
Manufacturing process and	recycle ratio	N/A	N/A			

Туре	Usage	Material	Swelling(*)
HNBR	For weather resistance	H-NBR	Max 35%
FKM	For weather resistance	FKM	Max 20%
NBR/PVC	For weather resistance	NBR/PVC	Max 10%
NBR1	For general purpose	NBR	Max 10%
NBR2	For low-swelling	NBR	Max 6%

Note (*): Swelling (dimensional change rate) is when the test piece is immersed in the test fuel oil C specified in JIS K 6258 (Testing methods of the effect of liquids for vulcanized rubber) at 40°C x 48h.

Section: 7 Page: 14 Issued: 06/10/2019

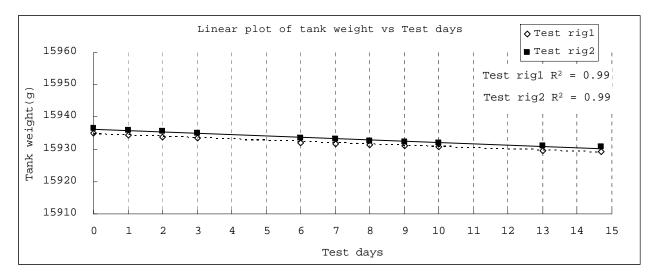
Revised:

Table 3: Daily test data of test rig

Test	Days	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14.5
rig	Date	6/13/06	6/14/06	6/15/06	6/16/06	6/17/06	6/18/06	6/19/06	6/20/06	6/21/06	6/22/06	6/23/06	6/24/06	6/25/06	6/26/06	6/28/06
1	Weight (g)	15934.9	15934.3	15933.8	15933.4	*1	*1	15932.1	15931.8	15931.4	15931.1	15930.7	*1	*1	15929.6	15929.3
2	Weight (g)	15936.5	15936.0	15935.5	15935.0	*1	*1	15933.6	15933.2	15932.7	15932.3	15932.0	*1	*1	15931.0	15930.7

^{*1:} No date due holiday.

Graph 1: Linear plot of tank weight vs. Test days



Section: 7 Page: 15 Issued: 06/10/2019

Revised:

Photos

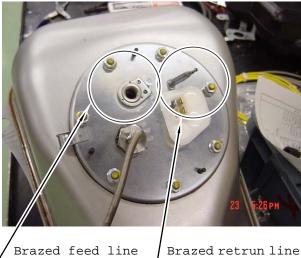
2007MY FSC600 Test rig:

Fuel cap and breather line



Capped breather line by fluorine-tube and plug

Feed line and return line(Fuel pump)

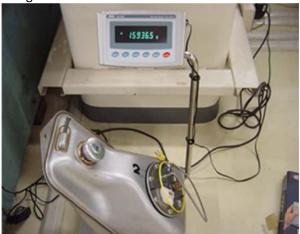


Brazed retrun line

Enclosure soak



Weight measurement



Section: 7 Page: 16 Issued: 06/10/2019

Revised:

<Evaporative Durability Data Vehicle(DDV) and Durability Test Data> Also refer to CSI 6D

Evap Bench Test method previously approved: Yes

Refer to Common Section (Section 6 Page 1) document

<Miscellaneous>

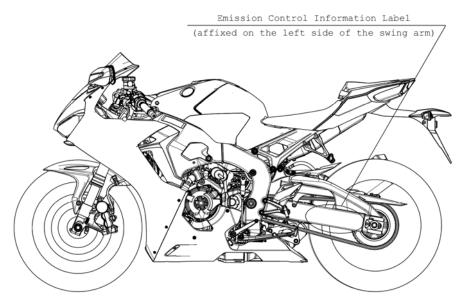
Emission label format previously approved: Yes

Refer to Common Section (Section 5 Page 1) document.

Emission warranty previously approved: Yes

Refer to Common Section (Section 3 Page 1 thru 7 and 14) document

Emission control information label location / label picture



LED3(49 state model)

VEHICLE EMISSION CONTROL INFORMATION - HONDA MOTOR CO., LTD. ENG:LHNXCO1.OCFA / PERM:LHNXPMETALO2



 READ
 OWNER'S
 MANUAL
 FOR
 TUNE - UP
 SPECIFICATIONS
 AND
 FUEL/LUBRICANT
 DETAILS.

 IDLE
 SPEED
 (IN
 NEUTRAL)
 NO
 ADJUSTMENT
 VALVE
 LASH
 INL 0. 16 ± 0. 03 mm
 EX. 0. 30 ± 0. 03 mm
 (COLD)

 NO
 0 IHER
 ADJUSTMENTS
 NEEDED
 VALVE
 LASH
 INL 0. 16 ± 0. 03 mm
 EX. 0. 30 ± 0. 03 mm
 (COLD)

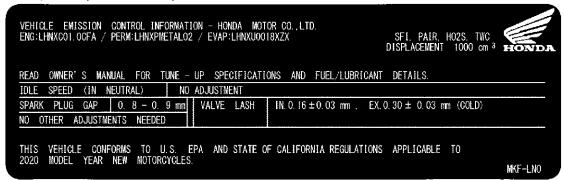
THIS VEHICLE CONFORMS TO U.S. EPA REGULATIONS APPLICABLE TO 2020 MODEL YEAR NEW MOTORCYCLES.

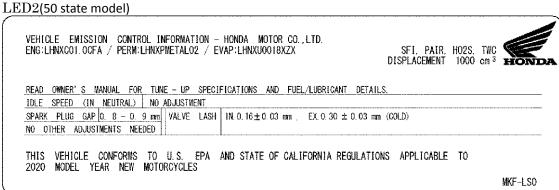
MKF-CNO

Section: 7 Page: 16 Issued: 06/10/2019

Revised:

LED1, LED2(50 state model)





Section: 7 Page: 17 Issued: 06/10/2019

Revised:

Emission-related Part Number Summary

Bracket means no part ID.

Bracket means no part ID			CBR1000RR /RA/S1	CBR1000S1
Prefix Parts Number	Parts ID	Parts Name	50s type	49s type
Fuel system:				
16400	GNK2B	Throttle body	Χ	
16400	GNK2C	Throttle body		Χ
16450	1330	Fuel injector	Χ	Χ
16450	1340	Fuel injector	Χ	Χ
16700	(16700)	Fuel pump assy	Χ	Χ
Ignition system:				
38770	MKFL1A/MKFL0A/MKFC1A	ECM	Χ	Χ
30700	JO515	Ignition coil & Spark plug cap	Х	Х
31120	(31120)	CKP sensor	Х	Χ
31912	IMR9E9HES	Spark plug	Х	Χ
31922	VUH27ES	Spark plug	Х	Χ
Air injection system:				
18601	(18601)	PAIR valve	Х	Х
36450	MCA	PAIR control valve	Х	Х
Evaporative emission	control system:			
17410	MGP A80	EVAP canister	Χ	
36162	MPCS20	EVAP canister purge valve	Х	
17557	(17557)	EVAP charge line	Х	
17620	(17620)	Fuel filler cap	Х	Х
17500	(17500)	Fuel tank	Х	Х
17526	(17526)	Fuel line	Х	Х
16527	(16527)	Fuel line	Х	Х
17574	(17574)	Fuel pump gasket	Х	Х
Exhaust after treatm	ent system:		•	
18150	HONMKF1000 H1	TWC	Χ	Х
Electronic sensors:		-		
37870	KRJ	ECT Sensor	Х	Х
37880	(37880)	IAT Sensor	Х	Х
16410	(16410)	TP Sensor	Х	Х
46401	079800-9340	MAP sensor	Х	Х
37700	(37700)	VSS	Х	Х
35135	(35135)	Throttle Control Position Sensor	Х	Х
36140	(36140)	Cam Position Sensor	Х	Х
36531	FHE	HO2 sensor	Х	Х
Crankcase emission c	ontrol system:			
17220	MKF E1	ACL housing	Х	Х
17230	MKF E1	ACL housing	Х	Х
Other components:	-	-	-	-
-	-	-		

Attachment-1 Confidential

Auxiliary emission control device (AECD) and defeat devices

Attachment-2

Emission test result



Deterioration Factor Calculation Sheet

MODEL: CBR1000S1 CONF

CONFIGURATION ID: HED2

11000

VIN (EDV ID): JH2SC7770HK000003

MODEL YEAR: 2017

V ID: <u>HED2-01</u>

0.025

N2O

0.003

On Road Motorcycle

7

ENGINE FAMILY: HHNXC01.0BFA DISPLACEMENT: 1000

ENGINE No: <u>SC77E-5000035</u>

Exhaust emission	on test data:					Momo	
Test Date	System		Emission Va	alues (g/km)		Memo:	
(mm/dd/yyyy)	Kilometers	CO	HC	NOx	HC+NOx	CO2	CH4

Test Date System Emission values (g/km)							
Test Number	(mm/dd/yyyy)	Kilometers	CO	НС	NOx	HC+NOx	CO2
1	10/21/2016	3511	0.63	0.135	0.047	0.182	142
2	11/03/2016	6412	0.61	0.149	0.044	0.193	140
3	11/15/2016	9612	0.59	0.148	0.045	0.193	139
4	11/23/2016	12812	0.66	0.153	0.048	0.201	140
5	11/25/2016	12842	0.70	0.150	0.051	0.201	140
6	12/01/2016	15011	0.71	0.174	0.048	0.222	139

		CO	HC	NOx	HC+NOx
Extrapolated Values	0 km	0.5700	0.1275	0.0440	
Interpolated Values	15000 km	0.6896	0.1634	0.0488	
Extrapolated Values	30000 km	0.8093	0.1992	0.0535	
Calculative Results of Deterioration Factor		1.174	1.219	1.096	

	_Tire-1	0.8	0.21	0.05	0.26	
End of Useful Life Emission	Tire-2	0.83	0.212	0.053	0.265	

Deterioration Factor	1.174	1.219	1.096	
Certification Levels of EPA	0.8	0.2		0.3

Mass Production				
Multiplicative	0 - 30 k	1.421	1.561	1.212
Deterioration Factor	or			-

ARB

MODEI	_CBR1000S1				INERTIAL WEIGH	IT <u>280</u> kg
		·	SION TYPE M6		COAST_DOWN TIM	1E 5.89 sec
TEST No.	. 1			PAIR+HO2S+TWC		
	3500km Em		ASE SYSTEM <u>CLC</u>		ODED ATO	oR yokoyam
				NISTER+PCV	•••	
TEST DATE (mm/c	22227					P25.0 °C
	FTP		K CAPACITY			
,) JH2SC7770HK0		DLE SPEED			IP <u>18.9</u> ℃
	SC77E-5000035		CURB MASS			CT 749.1 mmHg
ENGINE FAMILY	HHNXC01.0BF		NAL WEIGHT			Y 55.9 (%)
CONFIGURATION I			STANDARD			o. 9 <u>.0</u>
EVAP FAMILY	HHNXU0018XZ	<u>X</u> (DOMETER	3570 km	NOx FACTO	OR 1.0156
V ID	HED2-01		SYS.Km	3511 km	FUEL DENSIT	Y 0.7338
MODEL YEAR	201	<u>7</u> TIRE	PRESSURE	2.9 kg/cm^2		
	100		DLE SPEED	1200 <u>rpm</u>		
MAX CURB WEIGHT						
		····				
TEST RES	ULTS	MIX.EXH.GAS	BACK GND			
YCT	RANGE	CONC	CONC	g/TEST		
CO (ppm)	200	56.4	0.0	5.04	DISTANCE	5.774 km
HC (ppmC)	200	30.0	4.5	1.14	V.MIX	76.740 m ³
NOx (ppm)	20	2.29	0.00	0.34	V.EXH	594.7 l/km
CO2 (%)	1	0.591	0.047	766.92	DF	22.347
CH4 (ppm)	25	4.90	2.36	0.135	FE	17.27 km/l
N2O (ppm)	10	0.50	0.43	0.013		
*ICC		MIX.EXH.GAS	BACK GND			
YCS	RANGE	CONC	CONC	g/TEST		
CO (ppm)	200	11.4	0.2	1.72	DISTANCE	6.209 km
HC (ppmC)	200	10.9	4.3	0.51	V.MIX	131.920 m ³
NOx (ppm)	20	1.13	0.01	0.29	V.EXH	710.7 l/km
CO2 (%)	1	0.446	0.047	967.04	DF	29.895
CH4 (ppm)	25	4.05	2.39	0.153	FE	14.88 km/l
N2O (ppm)	10	0.50	0.42	0.023		
VIII		MIX.EXH.GAS	BACK GND			
YHT	RANGE	CONC	CONC	g/TEST	D. C.	F 770 1
CO (ppm)	200	71.5	0.3	6.36	DISTANCE	5.776 km
HC (ppmC)	200	27.9	3.6	1.08	V.MIX	76.780 m ³ 547.5 l/km
NOx (ppm)	20	1.53	0.01	0.23	V.EXH	
CO2 (%)	1	0.542	0.045	700.93	DF	$\frac{24.278}{18.82} \text{ km/l}$
CH4 (ppm)	25	5.04	2.24	0.148	FE	10.02 KIII/1
N2O (ppm)	10	0.50	0.42	0.014		
VEIGHTED V	ALUES					
BEFORE C	CO (g/km) HC	(g/km) NOx (g	g/km) CO2 (g/	km) CH4 (g/kn	n) N2O (g/km)	FE (mile/gal)
ROUNDING	, ,	.13514 0.04		,	, ,	38.29790
ROUNDING		0.135 0.0			0.003	38.3
ROUNDING	HC+NOx (g/kı					
	,•	·				
	CO	HC+NOx				

STD.

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0.8

MODEI	_ CBR1000S1				INERTIAL WEIGH	HT <u>280</u> kg
			SSION TYPE M6		COAST_DOWN TIM	1E <u>5.90</u> sec
TEST No	. 2				CELL N	
	1 6400km Em		ASE SYSTEM CLC			or yokoyam
TEST DATE (mm/				NISTER+PCV		R nagaoka
`	1 <u>FTP</u>		K CAPACITY			P25.0 ℃
) <u>JH2SC7770HK</u> (DLE SPEED			IP19.0 ℃
` '	SC77E-500003					CT 750.5 mmHg
ENGINE FAMILY			CURB MASS NAL WEIGHT			Y 56.5 (%)
CONFIGURATION I			NAL WEIGHT STANDARD	0.8 g/km		o. 9.0
						OR 1.0191
	HHNXU0018X2		ODOMETER			
	HED2-01		SYS.Km		FUEL DENSIT	Y 0.7338
	20]			$\frac{2.9}{\text{kg/cm}^2}$		
DISPLACEMENT			DLE SPEED	1200 <u></u> rpm		
MAX CURB WEIGHT	r <u>28</u>	3 <u>5</u> kg				
TEST RES	ULTS	MIN ENLI CAC	DACK CND			
YCT	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	63.7	2.5	5.48	DISTANCE	5.772 km
HC (ppmC)	200	31.0	2.8	1.25	V.MIX	76.740 m ³
NOx (ppm)	20	2.36	0.00	0.35	V.EXH	589.8 l/km
CO2 (%)	1	0.585	0.044	762.49	DF	22.541
CH4 (ppm)	25	4.67	1.96	0.143	FE	
N2O (ppm)	10	0.49	0.43	0.011		
YCS	RANGE	MIX.EXH.GAS	BACK GND CONC	g/TEST		
CO (ppm)	200	CONC 17.1	3.3	2.14	DISTANCE	6.203 km
HC (ppmC)	200	10.6	2.7	0.61		131.920 m ³
NOx (ppm)	20	0.95	0.00	0.24	V.EXH	693.2 l/km
CO2 (%)	1	0.434	0.044	944.98	DF	30.680
CH4 (ppm)	25	3.74	1.99	0.160	FE	15.19 km/l
N2O (ppm)	10	0.51	0.44	0.020		
YHT	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	58.2	3.5	4.90	DISTANCE	5.772 km
HC (ppmC)	200	27.5	2.6	1.11	V.MIX	76.830 m ³
NOx (ppm)	20	1.57	0.01	0.23	V.EXH	543.9 l/km
CO2 (%)	1	0.539	0.044	698.49		24.472
CH4 (ppm)	25	4.62	1.99	0.139	FE	18.93 km/l
N2O (ppm)	10	0.52	0.43	0.015		
VEIGHTED V	ALUES					
BEFORE	CO (g/km) HC	C (g/km) NOx (g/km) CO2 (g/	km) CH4 (g/kr	m) N2O (g/km)	FE (mile/gal)
ROUNDING	0.60845 0	0.14852 0.04	421 139.53	3961 0.02510	0.00282	38.84016
ROUNDING		0.149 0.0			0.003	38.8
	HC+NOx (g/k					
	СО	HC+NOx				
GED.	12.0	0.8				

12.0

STD.

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MODEL	CBR1000S1				INERTIAL WEIGH	т 280 kg
MODEL	CDITIOUSI		SION TYPE M6		COAST DOWN TIME	
_	0			-	-	
	3				CELL N	
	9600km Em		ASE SYSTEM CLO		•••	R <u>yokoyam</u>
TEST DATE (mm/c	55557				DRIVE	
TEST FORM	FTP	FUEL TAN	K CAPACITY	16.2 L		P. 25.5 ℃
VIN (EDV ID)	JH2SC7770HK0	00003 I	DLE SPEED	1200 rpm	WET.TEM	IP <u>19.2</u> ℃
ENGINE No.	SC77E-5000035	ACTUAL	CURB MASS	196.2 kg	BARO.PRES.CORREC	CT 745.9 mmHg
ENGINE FAMILY	HHNXC01.0BF		IAL WEIGHT		HUMIDIT	Y 55.2 (%)
CONFIGURATION II	HED2	HC+NOx	STANDARD	0.8 g/km	NOZZLE N	o. 9.0
EVAP FAMILY	HHNXU0018XZ	X (DOMETER	9770 km	NOx FACTO	R 1.0237
	HED2-01			9612 km	FUEL DENSIT	
	201		PRESSURE		TOLL DENGIT	1
DISPLACEMENT			DLE SPEED	=		
MAX CURB WEIGHT				-P		
MAA CORB WEIGHT	20	s				
TEST RESU	ULTS					
YCT	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	63.7	0.0	5.66	DISTANCE	5.771 km
HC (ppmC)	200	31.5	2.6	1.28		76.370 m ³
NOx (ppm)	20	2.23	0.00	0.33	V.EXH	588.1 l/km
CO2 (%)	2	0.586	0.044	760.22	DF	22.501
CH4 (ppm)	25	4.97	1.95	0.158	FE	17.37 km/l
N2O (ppm)	10	0.48	0.44	0.008		
YCS	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	12.4	0.0	1.89	DISTANCE	6.210 km
HC (ppmC)	200	10.3	2.6	0.59	V.MIX1	.31.130 m ³
NOx (ppm)	20	1.00	0.00	0.26	V.EXH	689.1 l/km
CO2 (%)	2	0.435	0.044	941.72	DF	30.645
CH4 (ppm)	25	4.00	1.96	0.184	FE	15.27 km/l
N2O (ppm)	10	0.48	0.42	0.018		
		MIX.EXH.GAS	BACK GND			
YHT	RANGE	CONC	CONC	g/TEST		
CO (ppm)	200	54.5	0.0	4.85	DISTANCE	5.768 km
HC (ppmC)	200	27.5	2.5	1.11	V.MIX	76.450 m ³
NOx (ppm)	20	1.62	0.00	0.24	V.EXH	540.3 l/km
CO2 (%)	2	0.538	0.044	693.63		24.533
CH4 (ppm)	25	4.81	1.95	0.150	FE	19.05 km/l
N2O (ppm)	10	0.50	0.43	0.012		
VEIGHTED V	ALUES					
DEEODE (CO (g/km) HC	(g/km) NOx (g	g/km) CO2 (g/	km) CH4 (g/kn	n) N2O (g/km)	FE (mile/gal)
BEFORE		14770 0.04		, ,	, ,	39.02380
						39.0
ROUNDING		0.148 0.0	45139	9 0.028	0.002	აუ.U
	HC+NOx (g/kı	· ———				
	CO	HC+NOx				

STD.

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MODEL	, CBR1000S1				INERTIAL WEIGH	т 280 kg
MODEL	, <u></u>		SION TYPE M6		COAST_DOWN TIME	
mp.am	4					
	4				CELL N	
	12800km BSM E		ASE SYSTEM CLC			DR <u>baba</u>
TEST DATE (mm/c	33337				DRIVE	
TEST FORM	FTP	FUEL TAN	K CAPACITY	16.2 L		P25.9 ℃
VIN (EDV ID)	JH2SC7770HK0	00003 I	DLE SPEED	1200 rpm	WET.TEM	IP <u>19.5</u> ℃
ENGINE No.	SC77E-5000035	ACTUAL	CURB MASS	196.2 kg	BARO.PRES.CORREC	CT 749.6 mmHg
ENGINE FAMILY	HHNXC01.0BF		IAL WEIGHT		HUMIDIT	Y 54.9 (%)
CONFIGURATION II	D HED2		STANDARD		NOZZLE N	o. 9.0
	HHNXU0018XZ		DOMETER	13022 km		R 1.0291
	HED2-01			12812 km	FUEL DENSIT	
	201		PRESSURE		I OLL DENSII	1
DISPLACEMENT			DLE SPEED	•		
MAX CURB WEIGHT				-F		
MAX CURB WEIGHT	20					
TEST RES	ULTS					
YCT	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	58.7	0.1	5.23	DISTANCE	5.769 km
HC (ppmC)	200	32.1	3.3	1.28	V.MIX	76.660 m ³
NOx (ppm)	20	2.54	0.02	0.38	V.EXH	588.1 l/km
CO2 (%)	1	0.584	0.044	760.29		22.594
CH4 (ppm)	25	4.72	1.98	0.145	FE	17.38 km/l
N2O (ppm)	10	0.49	0.44	0.010		
1120 (FF-11)						
YCS	RANGE	MIX.EXH.GAS	BACK GND CONC	g/TEST		
CO (ppm)	200	CONC 14.0	0.1	2.13	DISTANCE	6.206 km
HC (ppmC)	200	11.2	3.1	0.62		131.750 m ³
NOx (ppm)	20	1.00	0.01	0.26	V.EXH	696.3 l/km
CO2 (%)	1	0.437	0.045	948.68		30.488
CH4 (ppm)	25	3.94	1.97	0.179	FE	15.14 km/l
N2O (ppm)	10	0.48	0.42	0.018		
· -						
YHT	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	68.2	0.0	6.09	DISTANCE	5.769 km
HC (ppmC)	200	29.1	3.0	1.16	V.MIX	76.700 m ³
NOx (ppm)	20	1.86	0.00	0.28	V.EXH	544.4 l/km
CO2 (%)	1	0.539	0.044	697.32		24.420
CH4 (ppm)	25	4.92	1.96	0.156	FE	18.90 km/l
N2O (ppm)	10	0.50	0.42	0.014		
VEIGHTED V	ALUES					
DEEODE (CO (g/km) HC	(g/km) NOx (g	g/km) CO2 (g/	km) CH4 (g/kn	n) N2O (g/km)	FE (mile/gal)
BEFORE C ROUNDING	. ,	15323 0.04	, ,	, ,	, , ,	38.76773
						•
ROUNDING		0.153 0.0	48 140	0.028	0.002	38.8
	HC+NOx (g/kı	n)0.201				
	CO	HC+NOx				

STD.

12.0

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MODEL	CBR1000S1				INERTIAL WEIGH	т 280 kg
MODEL	, <u></u>		SION TYPE M6		COAST DOWN TIM	
TECT N	5			-	_	
	5 199001 - ACM F				CELL N	R baba
	12800km ASM E		ASE SYSTEM <u>CLC</u>			
TEST DATE (mm/c	55557			NISTER+PCV		R nagaoka
TEST FORM	FTP		K CAPACITY			P25.1_ ℃
VIN (EDV ID)	JH2SC7770HK0	00003 I	DLE SPEED	1200 rpm	WET.TEM	IP <u>18.9</u> ℃
ENGINE No	SC77E-5000035	ACTUAL	CURB MASS	196.2 kg	BARO.PRES.CORREC	CT 753.3 mmHg
ENGINE FAMILY	HHNXC01.0BF		IAL WEIGHT		HUMIDIT	Y 55.3 (%)
CONFIGURATION II	D <u>HED2</u>	HC+NOx	STANDARD	0.8 g/km	NOZZLE N	o. 9.0
EVAP FAMILY	HHNXU0018XZ	X (DOMETER	13052 km	NOx FACTO	R 1.0115
	HED2-01			12842 km	FUEL DENSIT	
	201		PRESSURE		TOLL DENGIT	1
DISPLACEMENT		-	DLE SPEED			
MAX CURB WEIGHT						
MAA CURB WEIGHT	20					
TEST RES	ULTS					
YCT	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	65.6	0.2	5.86	DISTANCE	5.774 km
HC (ppmC)	200	29.6	3.0	1.19	V.MIX	76.930 m ³
NOx (ppm)	20	2.50	0.00	0.37	V.EXH	589.1 l/km
	1	0.583	0.045	760.21		22.615
CO2 (%) CH4 (ppm)	25	4.92	2.06	0.151	FE	17.38 km/l
N2O (ppm)	10	0.49	0.44	0.010		
1120 (ppm)	10			0.010		
YCS	RANGE	MIX.EXH.GAS	BACK GND	g/TEST		
CO (ppm)	200	CONC 11.1	CONC 0.2	1.68	DISTANCE	6.202 km
HC (ppmC)	200	10.0	2.9	0.55		32.230 m ³
NOx (ppm)	20	1.13	0.01	0.29	V.EXH	700.3 l/km
CO2 (%)	1	0.438	0.045	954.56		30.447
CH4 (ppm)	25	3.90	2.04	0.170	FE	15.05 km/l
N2O (ppm)	10	0.48	0.41	0.020		
1,20 11						
YHT	RANGE	MIX.EXH.GAS	BACK GND CONC	g/TEST		
CO (ppm)	200	CONC 81.2	0.0	7.28	DISTANCE	5.768 km
HC (ppmC)	200	31.7	2.8	1.29	V.MIX	77.060 m ³
NOx (ppm)	20	1.99	0.00	0.30	V.EXH	547.6 l/km
CO2 (%)	1	0.538	0.046	696.48		24.395
CH4 (ppm)	25	5.28	2.02	0.172	FE	18.86 km/l
N2O (ppm)	10	0.50	0.43	0.012		
1,20 11						
VEIGHTED V	ALUES					
BEFORE C	CO (g/km) HC	(g/km) NOx (g	g/km) CO2 (g/	km) CH4 (g/kn	n) N2O (g/km)	FE (mile/gal)
ROUNDING		14984 0.05	, ,	, ,	, , ,	38.62257
ROUNDING		0.150 0.0			0.003	38.6
ROUNDING				0.020		
	HC+NOx (g/kı	· ———				
	CO	HC+NOx				

STD.

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MODE	L CBR1000S1				INERTIAL WEIGH	HT <u>280</u> kg
111022			SSION TYPE M6		COAST_DOWN TIM	1E 5.89 sec
TEST No	o. <u>6</u>				CELL N	
	15000km Em		ASE SYSTEM CLO			or yokoyam
TEST DATE (mm/				NISTER+PCV	====	ER nagaoka
	dd/yyyy) <u>1127.91</u> 7. 1 <u>FTP</u>		K CAPACITY			P. 25.3 °C
						1P18.9 ℃
•) JH2SC7770HK		DLE SPEED			
	SC77E-500003		CURB MASS			CT 752.9 mmHg
ENGINE FAMILY			NAL WEIGHT			Y 54.2 (%)
CONFIGURATION I		•••••	STANDARD	0.8 g/km		o. 9.0
	Y HHNXU0018X		ODOMETER		NOx FACTO	OR 1.0088
) HED2-01		SYS.Km		FUEL DENSIT	Y 0.7338
	R20			2.9 kg/cm ²		
DISPLACEMEN	Γ10	00 cm ³ A.1	DLE SPEED	1200 <u>rpm</u>		
MAX CURB WEIGH	Г2	85 kg				
TEST RES	ULTS	\arr =	D. C. C.			
YCT	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	60.6	0.0	5.43	DISTANCE	5.772 km
HC (ppmC)	200	32.1	3.1	1.29	V.MIX	76.910 m ³
NOx (ppm)	20	2.55	0.02	0.38	V.EXH	586.0 l/km
CO2 (%)	1	0.580	0.046	754.43	DF	22.740
CH4 (ppm)	25	5.06	1.95	0.164	FE	17.52 km/l
N2O (ppm)	10	0.49	0.41	0.014		
YCS	RANGE	MIX.EXH.GAS CONC	BACK GND CONC	g/TEST		
CO (ppm)	200	15.7	0.0	2.42	DISTANCE	6.208 km
HC (ppmC)	200	13.4	3.0	0.80	V.MIX	132.160 m ³
NOx (ppm)	20	0.93	0.01	0.23	V.EXH	697.3 l/km
CO2 (%)	1	0.436	0.046	946.87	DF	30.530
CH4 (ppm)	25	4.32	1.96	0.214	FE	15.16 km/l
N2O (ppm)	10	0.47	0.42	0.015		
YHT	RANGE 200	MIX.EXH.GAS CONC 72.6	BACK GND CONC 0.2	g/TEST 6.49	DISTANCE	5.771 km
CO (ppm)	200	31.4	2.9	1.27	V.MIX	$\frac{3.771}{77.030}$ m ³
HC (ppmC)	20	2.08	0.00	0.31	V.EXH	543.3 l/km
NOx (ppm)	1	0.535	0.045	693.31		24.569
CO2 (%) CH4 (ppm)	25	5.28	1.95	0.175	FE	18.99 km/l
N2O (ppm)	10	0.47	0.43	0.008		
VEIGHTED V	VALUES					
BEFORE	CO (g/km) HO	C (g/km) NOx (g/km) CO2 (g/	km) CH4 (g/kı	m) N2O (g/km)	FE (mile/gal)
ROUNDING	0.70526	0.17370 0.04	139.11	0.03207	0.00217	38.89467
ROUNDING _	0.71)48 139		0.002	38.9
	HC+NOx (g/k	cm) <u>0.222</u>				
	CO	HC+NOx				
CTD	12.0	Λ 8				

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Attachment-3 Confidential

Model picture
Picture will be provided when available

Attachment-4

Accessories / options

Accessary Lineup (CBR1000RR)

	Accessary Parts Name	Weight(kg)	Detaching Parts Name	Weight(kg)	Remarks*
1	High Wind Screen(Clear)		Wind Screen	0.168	0
2	PP Hugger	0.184	Hugger	0.06	0
3	Light weight Grip End	0.048	Grip End	0.236	Χ
4	Rear Seat Bag	1.294	_	0	0
5	Tank Bag	0.604	Collar, Bolt	0.016	0
6	ACC Socket	0.245	_	0	0
7	Li-ion Battery Mount	1.223	Battery	2.282	Χ
8	Single Seat Cowl	0.22	Rear Seat	0.416	Χ
9	Tank Pad	0.024	_	0	0
10	Auto Shifter	0.224	Shift bar	0.094	0
11					
12					
13					
14					
15					
16					
17			_		
			Max combinational weight	2.	54 kg

^{* &}quot;O": Accessary parts is used for weight caluculation.

Accessary Lineup (CBR1000RA)

	Accessary Parts Name	Weight(kg)	Detaching Parts Name	Weight(kg)	Remarks*
1	High Wind Screen(Clear)	0.302	Wind Screen	0.168	0
2	PP Hugger	0.184	Hugger	0.06	0
3	Light weight Grip End	0.048	Grip End	0.236	Χ
4	Rear Seat Bag	1.294	_	0	0
5	Tank Bag	0.604	Collar, Bolt	0.016	0
6	ACC Socket	0.245	_	0	0
7	Li-ion Battery Mount	1.223	Battery	2.282	Χ
8	Single Seat Cowl	0.22	Rear Seat	0.416	Χ
9	Tank Pad	0.024	_	0	0
10	Auto Shifter	0.224	Shift bar	0.094	0
11					
12					
13					
14					
15					
16					
17					
			Max combinational weight	2.	54 kg

[&]quot;X": This accessary weight is not grater than original parts or cannot coexist an accessary of greater weight. So, this accessary's weight is not counted in the max weight calculation.

^{* &}quot;O": Accessary parts is used for weight caluculation.

"X": This accessary weight is not grater than original parts or cannot coexist an accessary of greater weight. So, this accessary's weight is not counted in the max weight calculation.

Accessary Lineup (CBR1000S1)

	Accessary Parts Name	Weight(kg)	Detaching Parts Name	Weight(kg)	Remarks*
1	High Wind Screen(Clear)	0.302	Wind Screen	0.168	0
2	PP Hugger	0.184	Hugger	0.06	0
3	Light weight Grip End	0.048	Grip End	0.236	Χ
4	Tank Bag	0.604	Collar, Bolt	0.016	0
5	ACC Socket	0.245	_	0	0
6	Tank Pad	0.024	_	0	0
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					_
	" ~ "		Max combinational weight	1.	12 kg

^{* &}quot;O": Accessary parts is used for weight caluculation.

"X": This accessary weight is not grater than original parts or cannot coexist an accessary of greater weight. So, this accessary's weight is not counted in the max weight calculation.

Attachment-5 Confidential

Riding mode switching system